In the claims:

Amend the following claims:

1. A method of producing light metal castings composed of magnesium or magnesium alloys, comprising the steps of supplying a liquid metal first to a dosing chamber; pumping gas under pressure into the dosing chamber so as to press the liquid metal into a preliminarily evacuated mold nest; performing a production process within a system which is pressure-tightly closed from outside; [performing] heating of the liquid metal in a lower part of a melting device which adjoins a feed system; performing overheating of the liquid metal from a melting condition with a temperature of approximately 630°C to a [rigidification] solidification condition [at a tool side to a lower region of a valve seat]; and supplying and withdrawing a protective gas by a differential pressure system.

2. A method as defined in claim 1; and further comprising performing, within the closed system [a post-dosing] an additional supply of [rigid] solid light metal by a sluice device under an available pressure difference between outer atmosphere and an inner pressure in the melting device.

3. A method as defined in claim 1; and further comprising supplying the light metal selectively in a liquid form through a metal supply conduit and/or as a [rigid] solid light metal through a sluice device.

5. A method as defined in claim 1; and further comprising [rigidifiying] solidifying the liquid light metal by a movement of a tool device away.

6. A method as defined in claim 1; and further comprising supplying and withdrawing of the protective gas through a pressure intensifier, and compensating pressure losses by protective gas [post-dosing] additional supply.

7. A method as defined in claim 1; and further comprising performing the [rigidification] solidification of the light metal by lifting a casting retort and thereafter placing the casting retort on a tool device of a [last] next workpiece to be treated.

9. A device as defined in claim 8, wherein said differential pressure system includes a pressure intensifier, and a protective [gas-post-

dosing] additional supply means arranged after said pressure intensifier and compensating pressure losses.

10. A device as defined in claim 8, wherein said differential pressure system includes a [blow] bubble storage and a pump system associated with the latter.

11. A device as defined in claim 1; and further comprising a casting retort which narrows in direction toward a feed system, said metal supply conduit being arranged in a pressure-tight manner in said casting retort and supplying a liquid metal from said pre-melting oven through said check valve, said casting retort being connected with a pressure intensifier, and said pressure intensifier being connected with a protective gas dosing means which compensate pressure losses, said sluice means being arranged in said casting retort in a pressure tight manner for supplying a [rigid] solid light metal; a valve control means for controlling the supply of the liquid metal and associated with a valve lock for performing a supply in a very short time.

12. A device as defined in claim 8; and further comprising a system selected from the group consisting of a pneumatic system, a hydraulic system and both, and providing a valve control means, said valve

control means being connected with a valve [lock] locking device selected from the group consisting of a hydraulic valve lock, a pneumatic valve lock, and an electromechanical valve lock.

13. A device as defined in claim 8; and further comprising means for [rigidification] solidification of the liquid metal by a heat-insulating, cooled supply; and a heat-insulating layer locked between said melting device and a tool device.

Amended claims:

1. A method of producing light metal castings composed of magnesium or magnesium alloys, comprising the steps of supplying a liquid metal first to a dosing chamber; pumping gas under pressure into the dosing chamber so as to press the liquid metal into a preliminarily evacuated mold nest; performing a production process within a system which is pressure-tightly closed from outside; heating of the liquid metal in a lower part of a melting device which adjoins a feed system; performing overheating of the liquid metal from a melting condition with a temperature of approximately 630ºC to a solidification condition; and supplying and withdrawing a protective gas by a differential pressure system.

2. A method as defined in claim 1; and further comprising performing, within the closed system an additional supply of solid light metal by a sluice device under an available pressure difference between outer atmosphere and an inner pressure in the melting device.

3. A method as defined in claim 1; and further comprising supplying the light metal selectively in a liquid form through a metal supply conduit and/or as a solid light metal through a sluice device.

5. A method as defined in claim 1; and further comprising solidifying the liquid light metal by a movement of a tool device away.

6. A method as defined in claim 1; and further comprising supplying and withdrawing of the protective gas through a pressure intensifier, and compensating pressure losses by protective gas additional supply.

7. A method as defined in claim 1; and further comprising performing the solidification of the light metal by lifting a casting retort and thereafter placing the casting retort on a tool device of a next workpiece to be treated.

9. A device as defined in claim 8, wherein said differential pressure system includes a pressure intensifier, and a protective additional supply means arranged after said pressure intensifier and compensating pressure losses.

10. A device as defined in claim 8, wherein said differential pressure system includes a bubble storage and a pump system associated with the latter.

11. A device as defined in claim 1; and further comprising a casting retort which narrows in direction toward a feed system, said metal supply conduit being arranged in a pressure-tight manner in said casting retort and supplying a liquid metal from said pre-melting oven through said check valve, said casting retort being connected with a pressure intensifier, and said pressure intensifier being connected with a protective gas dosing means which compensate pressure losses, said sluice means being arranged in said casting retort in a pressure tight manner for supplying a solid light metal; a valve control means for controlling the supply of the liquid metal and associated with a valve lock for performing a supply in a very short time.

12. A device as defined in claim 8; and further comprising a system selected from the group consisting of a pneumatic system, a hydraulic system and both, and providing a valve control means, said valve control means being connected with a valve locking device selected from the group consisting of a hydraulic valve lock, a pneumatic valve lock, and an electromechanical valve lock.

13. A device as defined in claim 8; and further comprising means for solidification of the liquid metal by a heat-insulating, cooled

supply; and a heat-insulating layer locked between said melting device and a tool device.

Add the following claim:

15. A method of producing light metal castings composed of magnesium or magnesium alloys, comprising the steps of supplying a liquid metal first to a dosing chamber; pumping gas under pressure into the dosing chamber so as to press the liquid metal into a preliminarily evacuated mold nest; performing a production process within a system which is pressure-tightly closed from outside; heating of the liquid metal in a lower part of a melting device which adjoins a feed system; performing overheating of the liquid metal from a melting condition with a temperature of approximately 630°C to a solidification condition; supplying and withdrawing a protective gas by a differential pressure system; and performing the heating of the liquid metal in the lower part which is formed as a conical casting retort which has a cross-section reducing toward the feed system, by heating means which surround the conical casting retort and correspond to its conical shape.